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# SUMMARY OF THE LEPC RECOMMENDATION ON THE REQUEST FOR AN EXTENSION OF LEP

Following the LEPC special seminar on 5 September, and the closed session that followed, the Director General asked for the scientific advice of the LEPC concerning the extension of LEP running that was requested by the four LEP detectors.

The advice received from the committee by the LEPC chairman is summarized here. The recommendation, representing almost unanimously the views of the committee members, is:

> **To extend LEP operation until 2 November in order to double the recorded luminosity that was used in the presentations of 5 September. This is equivalent to "repeat the LEP-wide experiment".**

The arguments in favour of this extension are:

1) If the present events are a statistical fluctuation of the background, their significance should decrease by a factor $\sqrt{2}$.

2) If the present events are due to some unforeseen systematic errors, a doubling of the luminosity should help expose the problem since a sharper contradiction would emerge between the experiments and with the observation of only one channel.

3) If the present events are in fact due to the Standard Model Higgs, then the LEP-wide significance should increase to at least $3.3\sigma$, and possibly more if the analysis can be successfully optimised. If a Higgs is eventually confirmed at this mass (at the Tevatron or the LHC) then it is likely also to appear first at a similar level of significance, and the $5\sigma$ discovery would be made by combining with the LEP data.

4) The committee considers it important to double the statistics presented on 5 September in order to reach these expected improvements. It considers a shutdown on 1 October to be insufficient to reach this luminosity target.

The arguments against an extension are cost and impact on the LHC schedule. For these reasons the committee recommends an extension up to 2 November, which should double the luminosity and yet may have an acceptable cost and seems not to have a serious impact on the start-up of the LHC.

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